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IAD/OSS - 10/66
11 January 1966

MEMORANDUM FOR: Chief, Imagery Analysis Division, CIA

FROM : Chief, Operations Support Staff, IAD

SUBJECT : Anamorphic Eyepieces and 13X Tube Magnifiers

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1. Today and I held a lengthy discussion with and of P&DS covering the subject items. IAD ordered five sets of the anamorphic eyepieces from on 5 March 1965 as a result of IAD evaluations on the prototype piece of equipment. Cost of the five sets was estimated at

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2. The first production model of the anamorphic eyepieces was received by IAD last week and today we were briefed on the set-up and operating procedures. In addition, we have received a copy of the operating instructions which were used in the last NPIC P.I. training course. While it is estimated that set-up time for this equipment will run approximately 15 to 20 minutes initially, repeated use and general familiarization with the principles should reduce this time considerably in the future.

3. Rather than complete the assembly of all the production models of the anamorphic eyepieces, the manufacturer produced only this first model and submitted it for final "evaluation". While basic changes cannot be made at this stage we were asked to comment on any particular external irregularities which were noticeable. Several of the recommendations we made had previously been noted by P&DS personnel, but they include the following;

a. The scale and numerals on each optical assembly should be anodized black with white numerals.

b. The focusing mechanism of the left eyepiece was "rough and scratchy".

c. The covers to the left and right of each eyepiece were loose and require more substantial mounting.

d. Adjustment of the anamorphics causes the pod to rotate in its ring mount (this will be corrected by addition of a locking thumb screw to the ring mount).

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e. The adjusting dial and scale for the interpupillary distance setting was too large and awkward and should be made smaller.

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4. We approved of the black anodized finish of the device in lue of having them painted gray.

5. Although it is possible to remove the anamorphic eyepieces from a [] pod we recommend that in IAD the eyepieces be mounted on a [] pod an not be changed from one pod to another. Since there is considerable light loss through the optics of this instrument, we recommend that it not be used on a [] light base but rather on a [] base or a 940 MC light table.

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6. PAG will soon be asked to comment on this first production model of the anamorphic eyepieces and unless unforeseen difficulties are encountered, [] estimates that the above suggestions will cause no serious delay in production and that we may expect delivery of our order in late March or early April.

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7. As you know, we have ordered 250 13X tube magnifiers based on recommendations from the IAD Branches. These are to be manufactured by [] Contractual arrangements have not been completed due to some delays in evaluations made by other interested intelligence components. [] is, however, in the final stages of completing design objectives covering production models. Since IAD has ordered 250 units and PAG only 20 units, he was especially interested in our comments regarding certain details.

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8. Due to the unusual optical characteristics of this 13X the manufacturer recommends the use of aluminum and/or other opaque materials for the tube itself to eliminate the possibility of incident light affecting the quality of the optics. Since the 13X magnification will in itself limit use of the tube magnifier to DP's rather than paper prints we can see no objection to this recommendation. We did ask that focusing of the tube magnifier be accomplished by the use of precision fitted fine threads to avoid the "sloppy" characteristics of [] tube magnifiers. We also asked that the tube be drilled to accept a small eyelet, and than an eyelet be provided for each tube magnifier so that P.I.'s who wish to do so may attach a neck chain.

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9. We have asked for a price quotation on reticles for use with the 13X. Since this device requires a "field flattener" at the bottom of the tube, the manufacturer proposes to make the "field flattener" and the reticles one and the same. They will, of necessity, be thread mounted to the inside diameter of the tube and will be removeable by a small two pronged tool which will be provided with each tube magnifier. We have requested a proposal for reticles of two types; one to be a .001' scale and the other to be a .1mm scale across the lower half with a 180 degree compass scale around the upper half. Each is to be etched in red, not black. IAD requirements for these reticles will be determined upon receipt of a price proposal.

10. We have also asked that each tube magnifier be provided with a leather or leatherette case which will accept the magnifier and reticles.

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